Carbon Neutral Action Report for Core Government, 2013

Emissions and Actions taken for B.C. Ministries and Agencies in 2013

Core government is comprised of all the individual ministries and agencies that make up government operations for the province of B.C. This report contains total emissions for core government as well as selected highlights from individual ministries and agencies.

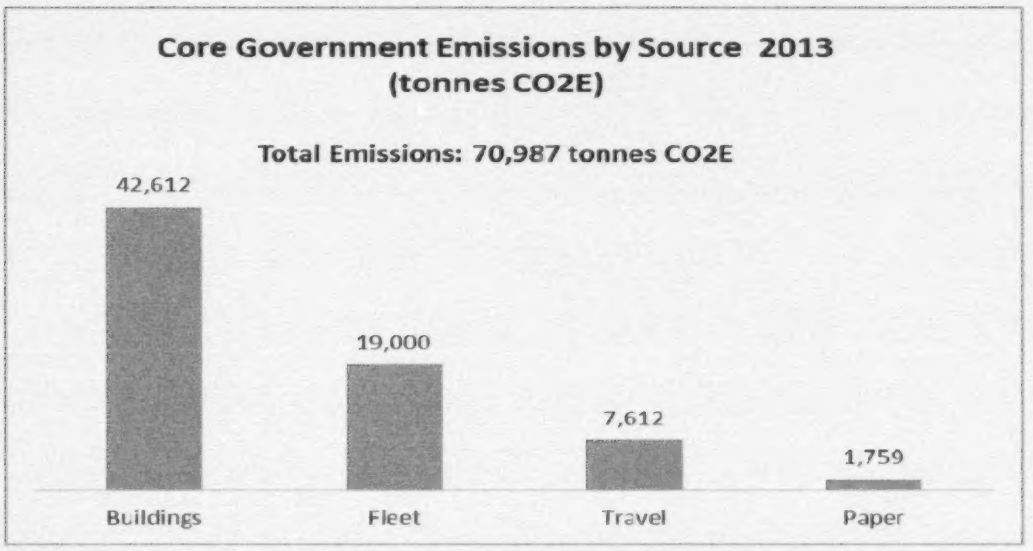
GHG Emissions Summary

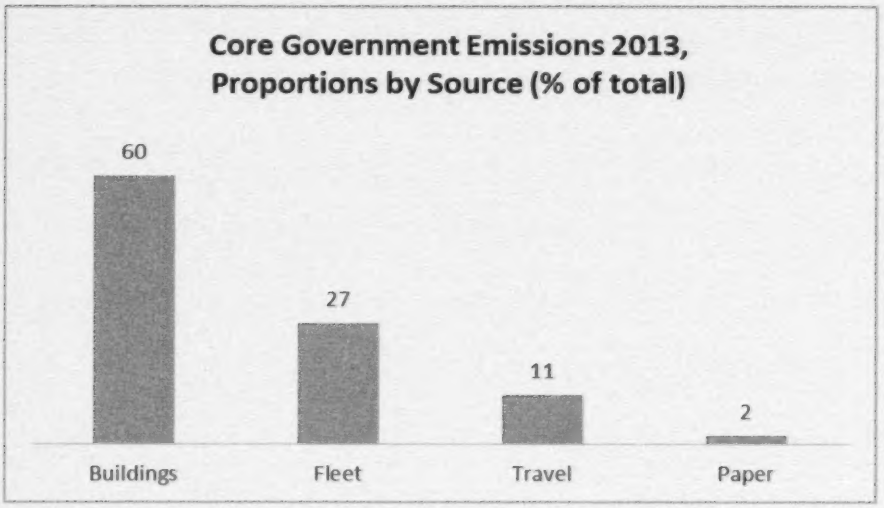
Total emissions 70,987

Total offsets 70,002*

Total Offsets Purchased $1,750,050

* Some emissions are exempt from offset purchase. CO2 emissions from Biomass and Biofuels are exempt as are all emissions from public transit vehicles and school buses. These emissions are still reported in total emissions, but are exempt from offsets purchase.



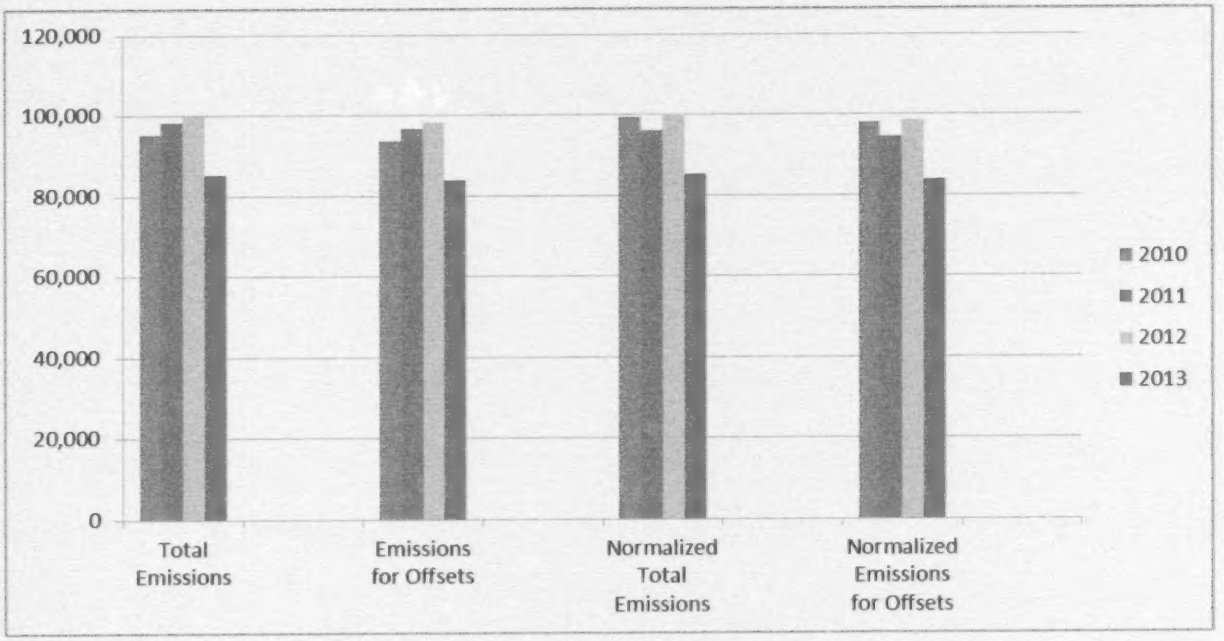


In 2013, two agencies were shifted out of core government and moved to others sectors deemed more appropriate for reporting purposes. BC Emergency Health Services was moved to the Health sector, resulting in a drop in total emissions for core government of 14,011 tonnes. Similarly, Destination BC became an independent Crown Corporation in 2013 so it has been removed from the Ministry of Jobs, Tourism and Skills Training and moved to the Crown sector resulting in a drop in total emission for core government of 152 tonnes. This explains a large component of the decrease in total emission for core government from 2012 levels. Other factors for the decrease in core government emissions are positive effects of reductions initiatives along with a drop in the emissions factor for electricity due to the impact of positive hydrological conditions which resulted in less dependency on imported electricity in 2013. The electricity emissions factor is responsible for a 3% drop in core government total emissions.

Normalized Emissions

60% of core government emissions come from energy used in buildings, largely for heating. In order to make direct comparisons between 2010 and 2013, we normalize emissions from buildings with a consistent temperature. This is done using a 30 year average temperature (from Environment Canada) and a baseline of 15°C for commercial buildings.

2010 - 2013 Core Government Emissions, Normalized for Weather (tonnes CO2E)



Core Government emissions for 2013 show a decrease from 2012 levels even with the inclusion of the amounts for BC Emergency Health Services and Destination BC. Including those agencies core government total emissions would be 85,150 tonnes which are still below 2010, 2011 and 2012 levels.

Highlights from Core Government – Actions taken by Ministries and Agencies in 2013

Ministry of Agriculture

Fleet emissions have decreased by 12% per year over the past three years due in part to travel restrictions, and sustained efforts to carpool, walk, bike or bus to meetings.

Emissions from buildings were reduced by 12% in 2013. At the Abbottsford Agriculture Centre the air conditioning system was upgraded to a high efficiency system and low wattage LED lighting was installed in parts of the building. This change is responsible for a large portion of the decrease in building emissions.

Ministry of Advanced Education

In 2013, one of the ministry's most successful projects to reduce paper use resulted from a policy change within the StudentAid BC program. The ministry has virtually eliminated printed correspondence by electronically posting letters to students rather than sending via mail. This and other changes have resulted in a 56% reduction in paper and printing

costs for StudentAid BC applications. Through this and other paper reduction initiatives, we have reduced our ministry paper use by 33%, which equates to over 400,000 less pieces of paper.

Other actions taken this year include the installation of high-definition video conferencing in a main boardroom, increasing recycling options to include Styrofoam and foil composite and ongoing sustainability support through the green team.

B.C. Public Service Agency

In 2013 the BC Public Service Agency continued to increase the number of staff participating in Leading Workplace Strategies (LWS), a BC Government initiative that promotes "telework" and "mobile" work styles for staff. LWS reduces the carbon footprint of an organization by using laptop computers which consume less energy than desktop machines, and when mobile workers reduce their commute they also reduce transportation energy consumption.

The agency implemented LWS in Vancouver at their 865 Hornby Street location resulting in sharing space with the Ministry of Justice. The agency eliminated their space at 360 Georgia St. and also decreased their space on the 8th floor. There has been an increased number of staff who are now internally mobile which aligns to the corporate strategy for space utilization, resulting in less space occupied.

Travel has been decreased with the use of Microsoft Lync for holding virtual meetings as many teams are located in multiple locations across the province. Each team member has a video camera and headset to ensure participation in the meeting and even if in the same location they meet at their desk instead of a meeting room therefore saving space and the need for travel.

Ministry of Justice

The Ministry of Justice finished expanding The Surrey Pretrial Services Centre in 2013. The Centre was a key component in the first phase of the B.C.'s capital plan to address capacity issues by expanding correctional facilities. When the expansion to the Centre opened in 2013, the entire Centre became the largest correctional facility in British Columbia, with 365 cells. The expansion was designed to create a better working environment for staff and a better standard of living for inmates, with ample natural light, and better indoor air quality. The expansion was designed to meet LEED Gold standards, the highest level of sustainability achieved to date in a British Columbia correctional facility. This will offer environmental benefits and lower operating costs throughout the life of the structure. This project commenced in June of 2011 and substantial completion was met in November 2013. In addition to achieving 69 points on the LEED scorecard (60 to 79 is range for Gold level totals) the list of environmental design initiatives most notably includes the following:

- Storm water management and low reflective roofing.
- Water usage reduction including efficient exterior landscaping strategies and low flow fixtures in the new building.
- Optimized Energy performance through both design and high performance equipment management.
- Effective Construction Waste management, use of recycled content materials, use of regional materials and Certified Wood.
- High quality indoor materials usage resulting in low polluting sources from flooring, paints and other materials.

- Building envelope commissioning
- Green cleaning facility maintenance products and services
- Durable building construction and a claimed' high regional project priority' environmental implementation.

In addition, the Ministry continues to improve its work towards having fully electronic court processes with the implementation of e-response, e-court, JUSTIN, and the Integrated Court Electronic Documents Project, which all reduce or eliminate the need for paper copies. In future years we will be launching the Mandatory Print Project, which is aimed at further reducing paper consumption. We will be able to monitor the amount of paper being purchased and used. By using these technologies we have reduced our paper consumption from previous years and will continue to do so in future years.

Ministry of Energy and Mines

77% of the meetings and events in the Ministry were "green" as per the Green Meeting Guide. This involves having zero paper, minimizing the need to travel to meetings (using Live Meeting or Lync as an option for all meetings), ensuring all food and beverages ordered are locally produced. Staff bring their own plates and cutlery as needed thus ensuring zero waste and making sure any materials used are recyclable.

Ministry of Natural Gas Development

The Office and Housing and Construction Standards (OHCS) within the Ministry of Natural Gas Development, has joined with the Ministry of Social Development and Social Innovation in a new printing service pilot called "Managed Print Service" or MPS. This has cut down on wasted or forgotten printing and therefore reduced paper consumption. Desktop printers have been eliminated and OHCS has adopted and electronic approval process which has also reduced the amount of paper consumed.

Ministry of Transportation and Infrastructure

In 2013, the Ministry of Transportation and Infrastructure consolidated three South Coast (Lower Mainland) offices into one location at 1500 Woolridge Street, Coquitlam. This building contains many environmentally-friendly features, and has achieved equivalency to a LEED Gold building. It also houses the Regional Transportation Management Centre, which is a control and monitoring facility that is capable of providing up-to-date information on the Lower Mainland's traffic conditions.

The Ministry provided financial support to the Bike to Work Week Society to help its goal of promoting cycling as a viable transportation alternative to and from work across BC.

The Ministry was one of the ministries to transition to the Managed Print Service system, which has reduced paper waste and energy consumption from printing.

Shared Services BC

Shared Services BC (SSBC) is a division of the Ministry of Technology, Innovation and Citizens' Services (MTICS) that oversees a number of initiatives that cover all government ministries, agencies and operations. For example, SSBC is responsible for managing the building stock for government, therefore initiatives to reduce emissions from buildings are undertaken through SSBC instead of individual ministries and agencies which normally lease their building space.

SSBC has undertaken a number of initiatives to reduce emissions from the provinces building stock:

Recognizing the significant amount of emissions generated by building operations, in 2013 a Real Property Division (RPD) GHG reduction plan was drafted as the first stage in developing an overall MTICS plan. It sets specific reduction goals for the next three years, including Behaviour, Operations, Programming, and Infrastructure (BOPI) focused actions.

- Behaviour - Continued implementation and support of annual cross-government energy conservation campaigns (e.g. Hibernation Challenge, Earth Hour, Earth Week, Stay Cool Challenge, Bike to Work Week, Green Streets). The implementation of workplace conservation awareness resulted in 1.88 GWh of savings.
- Operations - Achieved in partnership with facility management service providers, Service Level Specifications were more fully developed, goals identified in an Energy Management and Conservation Strategy were implemented, and self-assessments relative to HVAC leading practices were conducted in all facility management zones.
- Programming - Reduction of overall government workspace footprint with programs such as Leading Workplace Strategies (LWS). As of November 2013, since it was first roll-out LWS has been applied to 19,151 square metres of government office space, affecting 1,516 employees, achieving an average of 23% increase in space utilization, resulting in 1,145 etonnesCO2 avoided emissions and $1.8M in financial savings. Six ministries have participated in LWS, housed in 9 buildings.
- Infrastructure (both owned and leased) - Focuses on routine capital projects such as building system upgrades and replacements (e.g. mechanical, lighting and control systems), larger capital expenditures such as the Central Heating Plant for the legislative precinct and the Kelowna District Energy System, rationalization of building portfolio to retain high energy performing buildings, and the new construction of energy efficient facilities (e.g. Okanagan Correction Centre).

Government invested approximately $ 7.6 million in upgraded energy efficient infrastructure in 2013. Specific actions included the following:

- Coil cleaning and HVAC control updates provided an additional 0.642 GWh savings; the IT server virtualization and migration project (elimination of 25 small under load servers into one loaded server) resulted in 0.72 GWh of savings, and the installation of a high efficiency HVAC system and roof/wall insulation at the Surrey Pre-trial resulted in 1.13 GWh savings.

- Energy efficiency retrofit projects included upgrades of T12 to T8 fluorescent lighting, and incandescent light bulbs replaced by LED bulbs in 224 buildings. The combined lighting upgrades resulted in approximately 4 GWh in energy savings and associated cost reduction. Approximately 30% of the capital costs were funded by BC Hydro and Fortis BC.

Beyond the BOPI efforts described above, a number of management initiatives have been undertaken and improvements have been made:

- Energy Management Assessments: Assessments for owned and leased space, sponsored by BC Hydro were conducted in F2013/14 Q3 and Q4 respectively and suggested improvements are now being considered.
- Asset Management Framework: Energy Building Energy Performance Indicator (BEPI) and greenhouse gas emission (GHGEI) performance is included as a factor within Asset Management Plans.
- Routine Capital Program: Energy cost reduction potential is now one of six evaluation criteria within the project ranking process.
- Environmental Management System: Development of branch-level goals contributing to corporate objectives and targets associated with each of the five significant environmental priorities, continued roll-out of the Sustainability Framework.

Overall, the results of these actions have been gratifying.

- Almost 8% reduction in BEPI between 2010-2013 (weather-normalized)
- Almost 20% reduction in Greenhouse Gas Emissions between 2010 and 2013 (non-weather - normalized)
- Successful maintenance of Energy Management System registration under ISO 14001
- Accumulated Workplace Solutions Inc. Energy key performance indicator result of 19% over the past 5 years
- In 2014, the RPD Greenhouse Gas Reduction Plan will be expanded to include targets and planned actions of other lines of business within MTICS.

Actions to Continue to Minimize Emissions

Moving forward in 2014 and future years, BC core government will continue to work towards reducing GHG emissions with the following actions:

Buildings

- Work will continue to be done to upgrade existing building infrastructure with energy retrofits, lighting upgrades and energy management evaluations.
- New buildings will continue to be constructed to the LEED Gold level of certification.
- Initiatives such as the Leading Workplace Strategies will continue to be developed and utilized where appropriate to reduce the amount of space government occupies in its buildings.

Fleet

- Existing fleets will continue to be maximized for fuel efficiency with an eye towards reducing fleets where possible and moving to alternate energy vehicles where appropriate.

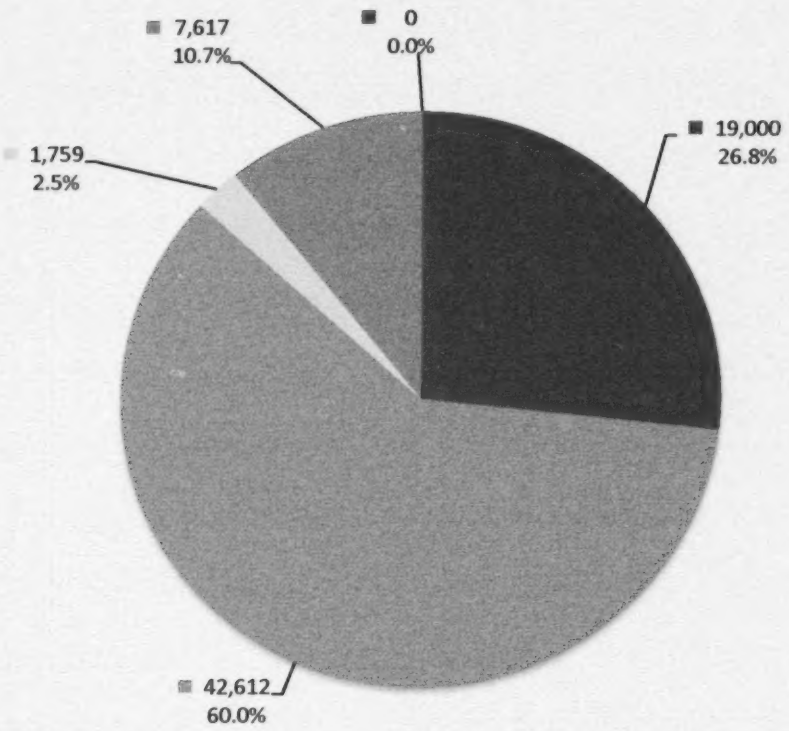
Travel

- Core government makes excellent use of video conferencing tools to reduce travel and this will continue to be the case

Paper

- Paper consumption will be further reduced by having more of core government use only 100% recycled paper as well as other print efficiencies such as the Managed Print Service to reduce waste from printing.

Government of B.C.
Greenhouse Gas Emissions by Source
for the 2013 Calendar Year (tCO_2e*)



Total Emissions: 70,988

- Mobile Fuel Combustion (Fleet and other mobile equipment)
- Stationary Fuel Combustion (Building Heating and Generators) and Electricity
- Supplies (Paper)
- Travel
- Fugitive Sources

Offsets Applied to Become Carbon Neutral in 2013 (Generated June 26, 2014 3:22 PM)

Total offsets required: **70,002**. Total offset investment: **$1,750,050**. Emissions which do not require offsets: **985** **

*Tonnes of carbon dioxide equivalent (tCO_2e) is a standard unit of measure in which all types of greenhouse gases are expressed based on their global warming potential relative to carbon dioxide.

** Under the *Carbon Neutral Government Regulation* of the *Greenhouse Gas Reduction Targets Act*, all emissions from the sources listed above must be reported. As outlined in the regulation, some emissions do not require offsets.